Remarks

Claims 1-19 are pending. Claims 1-9 have been withdrawn from consideration.

Restriction Requirement

Applicants affirm the election of Group II, claims 10-19.

§ 102 and § 103 Rejections

Claims 10-16, 18 and 19 stand rejected under 35 USC § 102(e) as purportedly anticipated by US 6,331,224 (Seko). Claim 17 stands rejected under 35 USC § 103(a) as purportedly unpatentable over Seko in view of any one of US 6,723,464 (Tabata), US 6,713,424 (Stumper) US 6,350,423 (Aoyama) or US 6,127,058 (Pratt).

The present claims recite a hydrophobic carbon fiber construction made according to a method comprising the steps of:

> "a) immersing a carbon fiber construction in an aqueous dispersion of a highly fluorinated polymer;
> b) contacting said dispersion with a counterelectrode; and
> c) electrophoretically depositing said highly fluorinated polymer on said carbon fiber construction by applying electric current between said carbon fiber construction and said counterelectrode."

As the Office Action notes, Seko teaches "a process comprising immersing a carbon fiber construction . . . in an aqueous dispersion of highly fluorinated polymer (PTFE), drying . . . and heating (sintering) . . . ." (Office Action at page 3.) However, the Office action questions whether the product of the process recited in the present claims is distinguished from the product of the Seko process.

At the outset, Applicants note that both the process described in Seko and the process of the present invention include a step of immersing a carbon fiber construction in an aqueous dispersion of highly fluorinated polymer. The process of the present invention requires the additional step of applying electric current between the carbon fiber construction and a counterelectrode to electrophoretically deposit the highly fluorinated polymer on the carbon fiber construction. If the products of the two processes were not distinguishable, this added step would be superfluous. However, the product according to the present invention has distinct and much improved

characteristics, as addressed numerous places in the Specification, including in Examples 1 and 2C.

Examples 1 and 2C represent a side-by-side comparison of processes performed with (Ex. 1) and without (Ex. 2C) the electrophoretic deposition step. Figs. 1 and 2 are electron micrographs of the actual product of Example 1. Figs. 3 and 4 are electron micrographs of the actual product of Example 2C. As noted in the Specification (e.g. at p. 5, ln. 25 et seq.), the fluoropolymer coatings produced according to the method of the present invention are uniquely uniform. In Figs. 1 and 2 it can be seen that the particles of fluoropolymer form a monolayer on the surface of the fibers. In contrast, Figs. 3 and 4 reveal clumped fluoropolymer particles and large uncoated areas on many fibers of the Ex. 2C product. As the Specification notes: "Without wishing to be bound by theory, it is believed that the method according to the present invention forces a uniform distribution of fluoropolymer because of the insulating nature of the coating." (p. 6, lns. 1-4).

Claims 11-19 each add additional features to claim 10. Claim 10 is patentable for the reasons given above. Thus, claims 11-19 are likewise be patentable.

The rejection of claims 10-19 under 35 USC § 102(e) and USC § 103(a) have been overcome and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Respectfully submitted,

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